ABSTRACT

To provide a highly hard coating film formed on a substrate, as adhered to the surface of the substrate and having a refractive index of from 1.28 to 1.41 and a contact angle with water of from 90° to 115°.

A coating film having a refractive index of from 1.28 to 1.41 and a contact angle with water of from 90° to 115°, which is formed as adhered to a substrate surface by forming a reaction mixture comprising a silicon compound (A) of the formula $Si(OR)_4$, a silicon compound (B) of the formula $CF_3(CF_2)_nCH_2CH_2Si(OR^1)_3$, a silicon compound (C) of the formula $H_2NCOH(CH)_mSi(OR^2)_3$, an alcohol (D) of the formula R^3CH_2OH and oxalic acid (E), in a specific ratio, heating this reaction mixture at a temperature of from 40 to 180°C in the absence of water to form a solution of a polysiloxane, then applying a coating fluid comprising the polysiloxane solution on a substrate surface to form a coating, and heat-curing the coating at a temperature of from 40 to 450°C; a process for forming such a coating film, and a process for producing such a coating fluid.